April 2001

ED NEWSLETTER

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IN THIS ISSUE

Bronze Relief Honoring EDs Unveiled At The U. S. Navy Memorial

The 10th Annual Blessing of the Fleet ceremony was held on Saturday, 7 April 2001. A special feature of this year's Blessing of the Fleet ceremony was the dedication of a new bronze relief for the U.S. Navy Memorial's sculpture wall. The bronze relief will honor and commemorate the Navy's Engineering Duty (ED) Officer Community.

Naval Engineering has a proud heritage of delivering superior war fighting capabilities to the Fleet. From the ancient past to the present, the history of naval warfare has demonstrated the overwhelming importance of technology. Their dominance as a maritime nation has been in part made possible by the professional naval engineers who have kept our Navy at the forefront of converting advances in technology into improvement in war fighting capability. This role is exemplified in the bronze relief depicting an ED and Ship's Program Manager looking over a plan and discussing progress at the Naval Shipyard.

Today, EDs are the most technically educated officer corps in the world and serve the Fleet in all aspects of Naval Engineering. EDs are leaders in design, acquisition, construction, and modernization of ships and weapons. They oversee the maintenance and life cycle management of these systems as well as the engineering necessary to maximize their service life.

Photo courtesy of U. S. Navy Memorial

ED Community Bronze Relief is unveiled by VADM George P. Nanos, Jr., RADM Stephen S. Israel, and RADM James W. Lisanby (Ret). Also participating in the unveiling were CAPT Debra L. Deacon, CDR Stan Cunningham, LCDR Paul M. Votruba and ENS Patrick Michael. These officers were chosen to represent a cross section of EDs who have served or who continue to serve in the ED community.

Working alongside civilian engineers in shipyards, laboratories, and design offices, EDs leverage our Nation's industrial might and technical knowledge. Armed with sea duty experience, advanced degrees, and high-tech industrial expertise, this group of professionals is a true "national asset" working to keep America's Navy #1 in the world.

MESSAGE FROM VADM GEORGE P. NANOS, JR. COMNAVSEA AND SENIOR ED

You, our Engineering Duty (ED) Officers, are leading the effort for our Navy to access information and provide maintenance reports in a real-time environment. This effort will give you and our Fleet customers consistent information for timely decisionmaking and project management. This is what NAVSEA's Maintenance Enterprise Resource Planning (ERP) will deliver to you and to the Fleet.

Recently, I had the opportunity to speak at the Navy League's Sea-Air-Space Symposium in Washington, D.C., about NAVSEA's partnership with the Fleet in this major effort to leverage a commercially available ERP solution. This effort will standardize ship maintenance functions on shore and integrate maintenance data among all organizations afloat and ashore. Also, it will provide a synergistic combination of Organization, Intermediate, and Depot (O, I, and D) level maintenance processes supported by a common database visible to all ship maintainers, their suppliers, and their customers.

This ERP solution is enhanced by and aligned with the CNO's recent decision to extend the Navy's regionalization and consolidation of our maintenance activities. Called the Navy Enterprise Maintenance Automated Information Systems or NEMAIS, it is working in concert with the three ERP pilots chartered by the Navy's Executive Steering Group for Enterprise Resource Planning. Chaired by VADM Joe Dyer, this group is charged with leveraging the Navy's ERP-related efforts and providing an integrated, flexible, and robust information system to meet the Navy's long-term needs.

NEMAIS will replace most of the nearly 140 existing functional legacy systems and locally developed databases and spreadsheets that have met the needs of individual departments and activities over the years. These systems frequently cannot relay aggregate information up the chain or share it among peer organizations with related or similar missions. Interfaces between these systems are rare. The existing ones are generally expensive, point-to-point, and hard-coded. The same data are often kept in multiple systems, thus creating the need for manual re-entry and time-consuming reconciliation, which often leads to problems with data currency and accuracy.

Our plan is to consolidate the many maintenance information technology systems operating today into one or as close to one system as is humanly possible. This is no simple task. In phases, an ERP system will be installed in all our Naval Shipyards, Supervisors of Shipbuilding sites, Shore Intermediate Maintenance Activities, Trident Refit Facilities, and on all Naval ships and submarines. The Fleet and the contractors who support our Navy's ships will have to adapt to the ERP data model.

Why Are We Doing This?

ERP will help us meet the CNO's tops priorities for manpower, current and future readiness, quality of service, and Navy-wide alignment. ERP will help us do this by

- providing timely and rapid access to information and readiness metrics,
- supporting total asset visibility,
- enhancing the planning and scheduling process,
- providing better decisionmaking tools,
- reducing the total cost of ownership,
- minimizing and simplifying data collection, and
- using common processes across the enterprise.

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MESSAGE FROM RADM GEORGE R. YOUNT NAVSEASYSCOM (SEA 05)

Spring is a great time of year isn't it? Flowers in bloom, the days get longer and warmth returns to the earth – all things we look forward to. Well it is also the start of the summer move season, another annual ritual that presents it's own blessings and stresses. Like the seasons, the process of summer moves and orders continue, unabated, year after year – after all, there is a Navy to run, and a world to cover, so office changes will be observed. In the past few years, however, I have been noticing a subtle difference in how we serve. Some folks are shocked that moves are coming at the two and three year point and others are so thrilled to receive orders that they respond "I'll do it if I'm ordered to…".

Now, don't get me wrong, I have been as surprised as the next guy as to where I was being sent, but certainly it was a rarity that I was surprised that it was time to get orders. As we highlight in the Basic Course, Senior Course and the Captains Seminar, we are presently in a manning condition which demands assignments in the initial ED tours to typically be closer to two years than three. The reason for this is to ensure that we fill our primary customer needs first, the Fleet, TYCOM and overseas billets. I realize that this causes a bit more churn in peoples lives than perhaps they would desire but at the same time it has the particular benefit of more rapidly

expanding individual horizons and capabilities. Some have complained that if they could only stay in their initial tours one to two years longer that they would be able to fully master their craft. Without doubt, I am confident that after three to four years any one of you would be the resident expert in your respective assignments – however, you really are not going to be doing that job for the rest of your career. We want you to be versed in your area of concentration but we also want you to have enough breadth of experience that you can successfully serve in the leadership capacity as a Commanding Officer or Major Program Manager. As you move through your assignments, keep practicing the key habit of "begin with the end in mind".

With respect to the notion of "I'll do it if I am ordered to…". I realize that each of us has our own "issues" to deal with in our lives. I also realize that given a choice, it is almost always easier to stay where you are rather than subject yourself, your family, your pets and your furniture to yet another move. Kathy and I have 17 moves under our belts with 6 cross country trips – many of you have similar records, some even greater. But that is frequently the nature of our business. To get to the jobs we need to fill as a community, and to get to the jobs we need to progress, it is not always possible to stay in the same location. In reality, with the consolidation of the Navy after the BRAC process, there are a few areas that provide greater opportunity for staying homebased, in particular, San Diego, Norfolk and Washington D.C. That said, it is still difficult to stay homebased as you get more senior. Therein comes my rub. Over the past 34 years I have had a number of jobs I would not have chosen as my first pick and I have lived places where I never dreamed of asking to go. In every instance the job was better, more satisfying that I could have imagined. The personal and professional relationships have been life long. Our children grew to maturity, actually did very well, and as young adults, look back fondly on their experiences (though clearly there were lots of tears along the way). The experience of seeing America, strengthened my conviction

See ***Yount,*** page 21

MESSAGE FROM RADM JOSEPH A. CARNEVALE CINCLANTFLT (N43)

There is a great deal going on in Fleet maintenance these days. Events like the attack on *USS Cole* take top priority. LCDR Jess Riggle was rushed to *USS La Moure County* when she ran aground to assist in the recovery. His efforts were essential to the successful salvage operations. From a long range planning perspective, CNO's focus on current readiness is really being felt. OPNAV's realignment has brought renewed focus on a broad range of endeavors. In my last note, I shared my vision for Fleet maintenance. There have been significant efforts in all six areas.

Maintenance Metrics. Metrics that can accurately reflect the current readiness of the Fleet are critical to the effective application of precious budget resources. Under the direction of the Fleet Review Board (FRB), co-chaired by the Deputy CINCs from the Atlantic and Pacific Fleets, a working group is pulling it all together. CDR Dennis Bevington, LCDR Chris Mercer and CDR(S) Jerry Coleman from LANTFLT, CDR Jarrett Mowery from PACFLT, and CAPT Scott Barbour from INSURV are leading the efforts. The endeavor spans common assessment processes to high level metrics. The goal of the metrics is to identify the areas having the greatest adverse impact on Fleet readiness, apply resources and then track the results to determine if an improvement commensurate to the

investment has occurred. At the latest meeting of the FRB, RADM LaFleur described this effort as one of the important undertaken by the FRB.

Maintenance Integration. CDR(s) Mark Bracco will be relieving CDR John Barentine as the officer in charge of the Mid Atlantic Regional Business Office (RBO). The RBO is providing the forum to develop the best business practices amongst the type commanders. Having uniform processes is critically important to the other important effort ongoing in Mid Atlantic, the Navy Enterprise Maintenance Automated Information System (NEMAIS). This Enterprise Resource Planning (EPR) program will grow from its current effort in intermediate level maintenance to both shipboard and depot level applications.

See ***Carnevale,*** page 22

CINCLANTFLT N43 Vision for Fleet Maintenance

BY 2010, OUR DEPLOYING UNITS WILL BE CONTINUOUSLY MAINTAINED AT A MEASURABLY HIGHER DEGREE OF MATERIAL READINESS TO TRAIN, DEPLOY, AND FIGHT IN A FULLY INTEROPERABLE COMBAT ENVIRONMENT. OUR SAILORS AND SHIPS WILL BE SUPPORTED BY A SEAMLESS SYSTEM TO DEFINE AND EXECUTE MAINTENANCE AND MODERNIZATION REQUIREMENTS. THE SYSTEM WILL TAKE ADVANTAGE OF AVAILABLE TECHNOLOGY IN MONITORING, DIAGNOSTICS, RESOURCE PLANNING, AND EXECUTION TO MINIMIZE THE BURDEN ON SHIP'S FORCE WHILE DEVOTING MORE RESOURCES TO ACTUAL MAINTENANCE AND MODERNIZATION AND LESS ON INFRASTRUCTURE AND PROCESSES. THE CHANGES WILL BRIDGE THE GAP BETWEEN THE EXISTING FLEET AND FUTURE SHIPS SUCH AS LPD17, SSN 774, DD21 AND CVNX.

BY 2010, CORE PRODUCTION RESOURCES WILL BE FULLY DEFINED AND FULLY INTEGRATED. SAILORS ASSIGNED TO ASHORE MAINTENANCE ACTIVITIES WILL WORK IN THEIR RATING, GAINING EXPERIENCE, QUALIFICATIONS AND ADVANCEMENT NECESSARY TO SUPPORT THEIR AFLOAT ASSIGNMENTS. THE PERSONNEL, BILLETS AND WORKLOAD WILL ALL BALANCE. THE REMAINING WORK WILL BE ACCOMPLISHED BY A COST EFFECTIVE PARTNERSHIP BETWEEN PUBLIC AND PRIVATE ACTIVITIES, PROVIDING STABILITY TO THE CRITICAL, SKILLED WORKFORCE THAT SUPPORTS OUR FLEET. MAINTENANCE REQUIREMENTS WILL BE DEFINED FROM WARFIGHTING READINESS STANDARDS AND WILL BE FULLY FUNDED. THERE WILL BE CONFIDENCE IN BOTH THE PROCESS OF DEFINING THE REQUIREMENTS AND THE EFFECTIVENESS OF THE EXECUTION.

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MESSAGE FROM RADM DENNIS M. DWYER DIRECTOR SSP

Strategic Systems Programs (SSP) has started in earnest to carry out the direction of the last Quadrennial Defense Review (QDR) to deploy an all TRIDENT II (D5) fleet of 14 SSBNs in the Atlantic and Pacific. Engineering Duty (ED) Officers continue to lead the way with CDR Chuck Lasota managing the complex conversion of *USS Alaska (SSBN 732)* and *USS Nevada (SSBN 733)* from TRIDENT I (C4) to TRIDENT II (D5) capability at Puget Sound Naval Shipyard.

The Strategic Weapons facility, Pacific (SWFPAC) at Bangor, Washington is also being converted to build, process and to securely store the TRIDENT II missile. ED CDR Bob Susbilla, SWFPAC Weapons Officer and LCDR Craig Earls, Conversion Project Officer lead this conversion of missile assembly, transport and pier-side explosive handling facilities. ED CAPT Keith Lyles will take command of SWFPAC this June.

Four OHIO Class SSBNs will be converted to D5 capability. The shipboard strategic weapons systems for these conversions, and the 10 D5 TRIDENTS currently at Kings Bay will be upgraded using commercial-off-the-shelf (COTS) electronics. The TRIDENT Fire Control system, under the leadership of

CDR Terry Benedict and LCDR Tom Vece, will be replaced to incorporate advanced computing and graphics capability to support the new Strategic Retargeting System.

The TRIDENT integrated precision ship navigation system, under the leadership of ED CDR Frank Weingartner, is also being upgraded to incorporate COTS electronics, displays and enhanced navigation aides.

ED missile engineers CAPT Dave Krueger, CDR Steve Lewia and LCDR Gene Canfield have initiated a $100 million R&D program to refresh the TRIDENT II's missile flight control electronics. This is a key task to extend the life of the Nation's primary nuclear deterrent missile to 44 years.

TRIDENT warheads are also being programmed for Life Extension. Under the leadership of EDs CDR Craig Crowe and LCDR Hal Skoog, the W76 warhead, most numerous in the Nation's stockpile, has entered engineering development to define the process to extend the life to 60 years. EDs are also manning exciting and critical positions in the Department of Energy weapons laboratories that perform warhead development. ED LCDR Joe Baehr at Los Alamos National Laboratory in New Mexico and LCDR Randy Weekly at Lawrence Livermore National Laboratory in California are supporting this important National program.

One unique ED position is the OIC of SSP Detachment, Omaha. ED CDR Terry Ewald is currently serving as OIC and primary advisor for all Fleet Ballistic Missile matters to the Commander-in-Chief of the Strategic Command.

The EDs in Strategic Systems Programs are fully engaged in the extensive one-time transformation of the Fleet Ballistic Missile force. Our mission is to ensure a credible and affordable sea-based deterrent for the Nation through the first half of the 21st Century.

MESSAGE FROM RADM STEPHEN S. ISRAEL NAVSEASYSCOM (SEA 00R)

The Naval Reserve Engineering Duty (ED) Community has been involved in many facets of the Navy these last few months.

To support current operations, members of NR SUPSHIP 608 and volunteers from across the nation will augment SUPSHIP Pascagoula during the repair effort of the *USS Cole (DDG 67).* SUPSHIP Pascagoula is focused on new ship construction; so the additional resources and technical expertise from the Reserve EDs will be profitably used. We are supporting SEA 53 (Surface Ship Technology Directorate) in Battle Group System Interoperability Testing (BGSIT). Naval Reservists are conducting an actual shipboard validation check of the software used in mission critical systems. This validation is used to update the BGSIT software-tracking database and to verify compatibility through the BGSIT process. We have officers assisting with the Environmental and Occupational Safety and Health assessments as part of the pre-Command Performance Inspections (CPI) for NAVSEA Field Activities.

Looking to the 21st Century Navy, our members have supported the testing of the Multi-Modal Watch Station (MMWS). MMWS is a Human/Computer interaction initiative to evaluate to the feasibility of reduced manning on surface combatants. We have officers actively involved with the Joint Warrior Interoperability Demonstration

2001 which is a JCS sponsored C4ISR exercise. Also, officers are supporting NAVSEA's participation in the JCS Sponsored Exercise, Positive Force '01, by staffing the NAVSEA Command Center and by being the exercise point of contact for their Directorate or PEO.

On the education front, we just finished a very successful East Coast Naval Engineering Workshop (NEW). The NEW highlighted today's technical leadership and innovations at the Naval Sea Systems Command, the Office of Naval Research, the Space and Naval Warfare Command and the Navy's Program Executive Offices. Over 420 officers, enlisted and civilians attended this star-studded event. Over 11 flag officers spoke on aspects of Naval Engineering and provided updates on their programs. RADM George R. Yount, Deputy Commander NAVSEA, Integrated Warfare Systems, gave an inspiring keynote speech on the NEW theme, "Naval Engineering Leadership". He described naval engineers as "Engineers of character, proficiency and fortitude with great inspiration, innovation and vision." VADM Nanos, Commander, Naval Sea Systems Command and RADM Dwyer, Director, Strategic Systems Program, both gave excellent luncheon speeches concerning Naval Engineering Leadership. The Commander, Space and Naval Warfare Systems Command, RADM John A. Gauss gave a dynamic speech and will be hosting a similar event - the West Coast NEW, at SPAWAR, San Diego, CA on 28-29 April 2001.

In supporting our Naval Heritage, Naval Reserve EDs are assisting with NAVSEA's Ship Disposal Pilot Program for Knox Class Frigates. Our members are reviewing ship documentation and doing on-site inspections to identify the type, location and quantity of hazardous material; the results will feed into the Ship's Disposal Plan. We perform inspections for the Ship Donation Program. Recently, members of NR Puget Sound NSY units inspected the ex-*Turner Joy (DD-951),* a Forrest Sherman class destroyer.

As the year progresses, we in the Naval Reserve ED Community are committed to continuing to support our gaining commands in current operations with the Navy of the 21st Century and in maintaining our Naval Heritage.

MESSAGE FROM RADM (S) PAUL E. SULLIVAN PEO SUBMARINES (PMS 450)

YOU ARE YOUR OWN BEST DETAILER!!

How many times have you heard this during your career? Probably more than you care to admit. Guess what? It's STILL TRUE!! Our detailers are the best, and we have the luxury of a career management office with Patsy and Ida. HOWEVER, there are only a few of them, and about 850 of us! So, the best thing you can do for yourself is to help them help you have a great career.

Some of the basics:

- Always have that "Duty Preference Card" on file. OK, so we don't use the formal form much any more. But what we DO use is the career planner. It's far more flexible, tells the detailers and Patsy (SEA 00PZ) more about you, and actually tracks where you want to go all through your career, vice the old card, which just says what your desires are for next duty station. This paper helps in flag counseling, helps your mentor identify where you may be off track, and it helps you plan your own life. The Career Planner can be obtained from your detailer. Please take the time to fill it out, send to Patsy and the detailers and to your mentor. THEN, KEEP IT UP TO DATE!!!!

- Keep your Officer Data Card (ODC) up to date. Yes, I know it's not a very easy

document to work with, and the updates seem to take forever to make it onto the card. However, again, you are your own best advocate. Keep pursuing until all your quals, family members, schools, etc are reflected on your ODC. The ODC, together with the career planner, gives the detailers a pretty powerful toolkit to help you manage your career!

- Take the time periodically to think ahead. The ED Community has many great opportunities for you, but you need to work with a little forethought. For instance, if you are in a career track that has three fleet maintenance jobs in row, but you want to be an acquisition program manager, then you have a problem, and you need to get some

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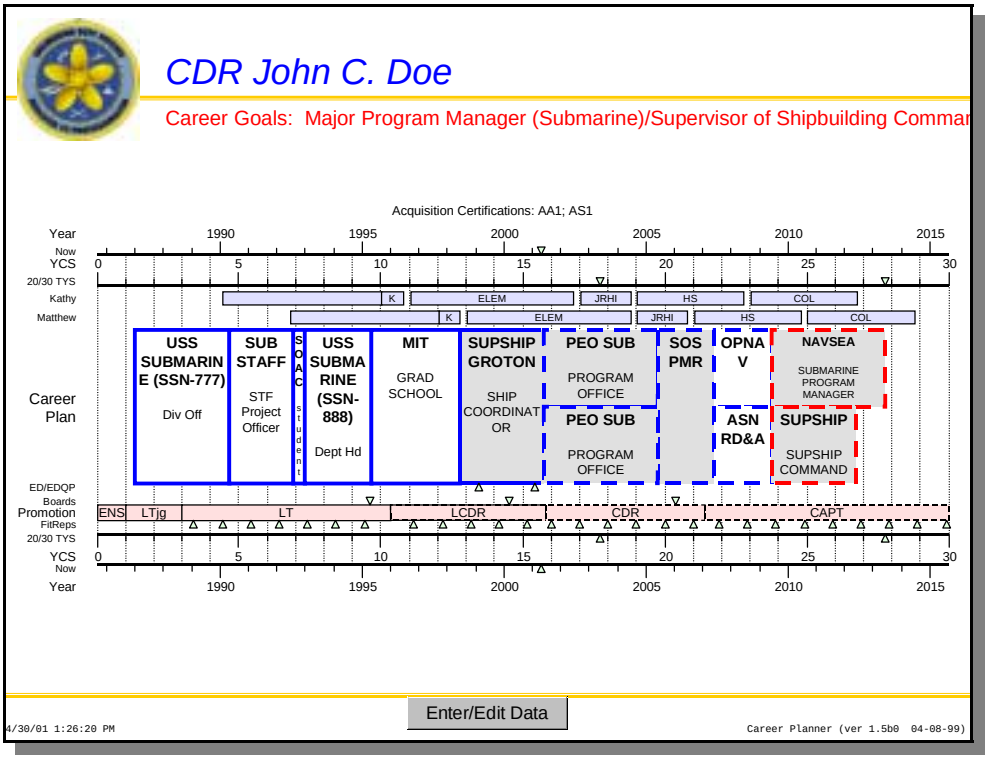


Figure 1. SAMPLE CAREER PLANNER

Patsy's Corner

By Patsy S. Morgan, NAVSEA (SEA 00PZ)

CAPT John Edwards, Senior ED Detailer, detached in late February and started his training track for his next job as Commander, Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility. I want to take this opportunity to publicly thank CAPT Edwards for his leadership as the senior detailer; he was a great boss and strong community advocate. CAPT Robin Hiddemen is the incoming Senior ED Detailer, and she reports aboard in Millington in mid-July. Just in case you missed the significance of this time line, the Senior Detailer position is currently gapped. In the interim, CDR Tim Atkinson is acting in Millington, and I continue to work the NAVSEA and flag officer interface.

The good news received this month was release of the O-7 and O-6 selection boards. Congratulations are extended to Captains John Butler and Jeff Brooks who were our EDs selected for one star. Also congratulations to our new Captains Selectees who are listed on page 27. The next list of good news was release of the Mar 01 Lateral Transfer Board that produced 24 new ED officers, who are listed on page 27.

Recruiting new EDs into the community remains a critical issue. Our previous extreme shortages at LT will move into the LCDR ranks next year. We have already experienced it to some degree this year, and many industrial facilities are feeling the pain, as we must move officers early to fill key fleet positions. The requirements for 1440 LCDRs in particular, both surface warfare and submarine warfare qualified, are greater than the inventory. The community is committed to filling direct fleet support positions, i.e., afloat billets and fleet staffs, etc. I don't want to downplay the role of our industrial facilities in fleet support, but the shipyards, supships, and warfare centers are the facilities where we send 1460s for their qualification tour, and these activities are the prime source for identifying 1440 LCDRs. We will not compromise the EDQP process nor do we want to extend the tour length our EDs afloat and overseas. Some of the detailing for this year was similar to working an 850-piece jigsaw puzzle with about 80 pieces missing. In the naval shipyards, the requirement for submarine qualified officers is beyond critical mass. For the next 5-7 years, the demand for submarine qualified officers (particularly at LT/LCDR) in shipyards will be great. The ED Dolphin program is also an option for non-submariners to be involved in one of the toughest, most visible work environments of the community.

I particularly commend to your reading the article in this Newsletter from RADM(S) Paul Sullivan as he provides excellent information on career

planning. The ED Flags and Captains in our community take an active interest in the careers of our ED Officers and of course, career planning, counseling and community issues are my full time day job. I routinely meet with RADM Yount twice a week to work ED community management issues as well as Captain detailing. We are a community that cares about its people!

The ED Plans and Policies Office (SEA 00P) in NAVSEA has moved from Crystal City in Arlington to the Washington Navy Yard in Southeast Washington DC. It's great to be part of a Navy base, look out the window and see the river and a ship (actually it's exciting just to have a window!). Our office is located in Building 197, Room 4E4600. We look forward to seeing you in our new location.

Naval Research Laboratory – Shaping the Fleet of the Future through Science and Technology

By Naval Research Laboratory Public Affairs

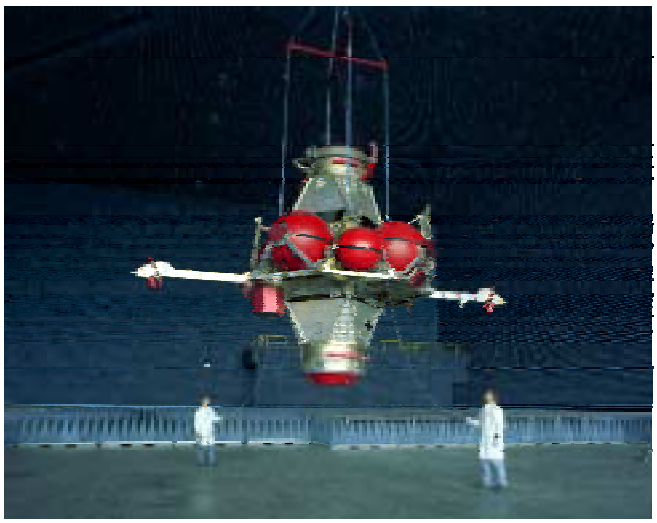
With the mission of applying practical engineering experience, technical knowledge and program management expertise to integrate science, technology and design into affordable ships and ship systems, Engineering Duty (ED) Officers plan and build new ships and submarines, and repair and update exiting fleet platforms. Captain Douglas H. Rau, Commanding Officer of the Naval Research Laboratory (NRL), directs the development of science and technology programs that will shape new platforms and sensors in the "Navy after next" in and on the sea, on land, in the air and space.

The Naval Research Laboratory opened its doors in 1923, seven years after it was first proposed in discussions between Secretary of the Navy Josephus Daniels and inventor Thomas A. Edison.

"As Thomas Edison had intended, we are the Navy and Marine Corps Corporate Laboratory, a great research laboratory to develop all the techniques of military and naval progression," CAPT Rau noted.

Today, the Laboratory's mission is to conduct a broadly-based multidisciplinary program of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems and ocean, atmospheric, and space sciences and related technologies.

Mr. Ed Senasack, Superintendent of the NRL's Spacecraft Engineering Dept., discusses various payload projects underway during a tour of Laboratory's Spacecraft Checkout Facility for ADM Vern Clark, Chief of Naval Operations, who was accompanied by RADM Jay Cohen, Chief of Naval Research, and CAPT Douglas H. Rau, NRL's Commanding Officer.



In 1997 NASA requested that NRL study the feasibility of adapting an existing, heritage spaceflight system to provide low-cost, contingency propulsion operations for the International Space Station (ISS). From its inception the Interim Control Module (ICM) was a contingency option for attitude control and reboost of the ISS that would allow NASA to perserve the on-orbit construction schedule in case of delays in the launch of the Russian Service Module. ICM is currently in a caretaker status and is being perserved in readiness in case it is needed for future ISS missions.

Located Close to Customers – Meeting the Needs of the Fleet

With a total complement of nearly 2,900 personnel, the Laboratory is headquartered in Washington, DC. Several of NRL's laboratories are co-located with program sponsors and end-users. NRL's Meteorology Division is in the same building as Fleet Numerical Meteorological and Oceanography Center in Monterey, CA. This co-location means that atmospheric models developed at NRL Monterey are quickly transitioned to the Fleet users who maintain watch in the same location. NRL's Oceanography Division operates next door to the Naval Oceanographic Office in Bay St. Louis, MS.; once again, the close relationship allows for quick transition of ocean models to Fleet products. NRL maintains the Ex-*USS Shadwell* in Mobile Bay, AL, as a fire test ship for the Navy, moored alongside two Coast Guard test ships. New damage control and fire fighting concepts, techniques, sensors and agents are tested for application to Fleet requirements.

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Shaping the Fleet

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NRL's Key West detachment is a small facility where paint systems are tested for maintainability and corrosion resistance. Ample sun and salt water make this a prime location to test Navy paints. At NAS Patuxent River, MD, NRL's Flight Support Detachment of six specially outfitted P-3 aircraft supports worldwide oceanographic and atmospheric research and low-level of high-level sensors.

Mission-Critical Research

"The Laboratory's mission is a continuing one for two reasons; the international balance of power is sensitive to the emergence of new technologies, and defense technology proliferates rapidly. NRL has literally tipped the balance of power a number of times. Some examples include NRL's invention and development of the first U.S. radar prior to World War II; the development and launching of the world's first intelligence satellite, GRAB I, during the Cold War; and NRL's TIMATION concept in the 1960s that led to the Laboratory's invention and development of the first satellite prototypes of the NAVSTAR GPS, a major contributor to victory in Operation DESERT STORM," CAPT Rau said.

"Today, the Laboratory's researchers and engineers continue our 78-year legacy of research excellence which spans the scientific spectrum, including studies in topics as diverse as electronic warfare, IR countermeasures, fire suppression, information technology, monitoring the solar corona and its impact on the Earth's atmosphere, artificial intelligence, remote sensing, and meteorological and oceanographic research," he continued.

"In the business of discovery, we are never sure what will be uncovered or discovered, but basic research has led NRL down the path leading to exciting innovations that may soon prove to make a significant impact on our way of fighting ... or our way of life," CAPT Rau said.

Some of the Laboratory's current research focuses on the following:

- Coupled Ocean/ Atmospheric Mesoscale Prediction System (COAMPS) – NRL developed a three-dimensional atmospheric model to predict conditions in any region of the world.
- Octanitrocuband – The most energetic material known. The Laboratory is conducting theoretical work to stabilize the element for explosives and propellants.
- Bead Assisted Resistance Counter (BARC). Development of a molecular level antigen sensor.
- DRAGON EYE – A back-pack mounted inexpensive unmanned aerial vehicle for Marine Corps over-the-hill reconnaissance.
- Fiber Optic Sensors– Research and development of new technologies for towed arrays, pressure, magnetic field and radiological sensors.
- WINDSAT – Development and construction of a satellite-based microwave radiometer for measuring ocean surface wind speed and direction.
- Specific Emitter Identification (SEI) – Development of a voice print library of radars.
- Gas Hydrates – The Laboratory is conducting studies into the mining and use of this new source of carbon fuels.
- NULKA DECOY - Technical support for electronic packages and countermeasure techniques.

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Mr. Chris Bovais of NRL's Tactical Electronic Warfare Division assists former Secretary of the Navy Richard Danzig in assembling a U.S. Marine Corps Dragon Eye, a backpackable unmanned aerial vehile, during a recent Laboratory visit. Former Secretary Danzig assembles a Dran Eye, just as a Marine would in the field. Dragon Eye is used for "over the hill" reconnaissance, making it possible for small fighting units to gather aerial information from a safe distance.

NRL's Spacecraft Engineering Dept. (SED) and Remote Sensing Division are working together to develop WindSat. WindSat is a demonstration program to evaluate the capability to exploit passive microwave polarimetry to measure the full ocean surface wind field (wind speed and wind direction) from space. The SED is designing, building, and testing the spacecraft, integrating it with the commercial satellite bus provided by the Air Force Space and Missile Command Space Test Program (STP) and conducting combined systems testing. The WindSat program is sponsored by the Office of Naval Research (ONR) and the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

Engineering Duty Officer Opportunities at Portsmouth NSY

By CDR John E. Lotshaw, Portsmouth Naval Shipyard

Welcome aboard Portsmouth Naval Shipyard! Located on Seavey Island near the mouth of the Piscataqua River, the Shipyard is a 275 acre modern industrial complex with the capacity to handle any submarine in the U.S. Fleet and all but the very largest surface ships. Portsmouth holds the distinction of being the oldest of the four public shipyards.

The Shipyard Commander, Captain Vernon T. Williams, is responsible for all aspects of Shipyard operations, from personnel and business matters, to the technically driven requirements of nuclear-powered ship maintenance. In addition to the civilian managers at the shipyard, there are a number of Engineering (ED) Duty Officers of varying experience levels in specific positions raging from the Business and Strategic Planning Officer, Operations Officer, and Engineering and Planning Officer, to Project Superintendents, Assistant Project Superintendents, and Zone Managers.

On-yard major submarine availabilities make up the bulk of the Shipyard's workload. EDs are situated in various project positions in these Engineered Refueling Overhauls and Depot Modernization Periods (DMPs). Officers currently serve as Nuclear and Non-nuclear zone managers and as Assistant Project Superintendent (Nuclear). CDR(S) Bryant Fuller is serving as Project Superintendent for the upcoming *USS Alexandria (SSN 757)* DMP.

Maintenance in a submarine's homeport is also a large contributor to the Shipyard workload. The Shipyard executes two to three of these off-yard Selected Restricted Availabilities (SRAs) each year, most of which are managed by ED qualified personnel from the Shipyard. In the last year, CDR Bob Mazzone, LCDR Brian McGinnis, and LCDR Mike France all led successful SRAs. These 20,000 manday availabilities are a significant management challenge that affords great opportunities for officers to demonstrate their abilities.

EDs are at the forefront of various efforts to improve the pace of availabilities. For example, LT Adam Masten recently completed a technical paper on recurring component failures. His work is now being reviewed and will likely result in a change to the submarine baseline work package. CDR Dave Brodeur and LCDR Jim Hassett are analyzing and recommending process changes to improve the Work-to-Test sequence. LCDR Gary Ulrich heads up the Shipyard effort to implement Shift Operation Management System (SOMS) on 688 Class submarines during overhaul.

In addition to mainstream work on 688 Class submarines, Portsmouth is actively engaged in other specialty programs. Portsmouth is home to the planning yard supporting the Navy's Deep Submergence Programs. The Shipyard is normally tasked with maintenance availabilities on two specific platforms, namely *USS Dolphin* (*AGSS 555)* and *Submarine NR-1*. Additionally, the Shipyard has also been involved with the new deep submergence/submarine rescue initiatives such as the Advanced Seal Delivery System (ASDS) and the Atmospheric Diving System (ADS).

Ship maintenance is a large portion of the daily workload for the ED community at Portsmouth, though it is certainly not the whole story. A Shipyard is essentially a small city and with it comes issues of managing and maintaining the infrastructure. With nearly 300 buildings (of which 50 are listed on the National Register of Historic Places), three drydocks, and a number of piers and cranes, there is a constant effort required. The Shipyard maintains its own fire and police departments, facilities and maintenance department, and Information Technology Division, to name but a few.

Great opportunities are always available for those officers who are willing to work with new technologies and lean manufacturing concepts to help make a difference for the Shipyard and the Navy.

(Left) LCDR Zach Scruton inspecting storm preparations at a Portsmouth drydock prior to a recent New England "Northeaster". (Center) Shipyard Diving Officer LCDR(S) Keith Lehnhardt, enjoying some time on the waterfront. (Right) LT Adam Masten presenting his EDQP Paper, "Recurring Component Failures".

SUPSHIP GROTON – Where the Rubber Meets the Road

By LCDR Francis E. Spencer, III, SUPSHIP Groton

NAVSEA Groton supports the submarine force by administering procurement, ship design, construction, overhaul and repair contracts, and delivers quality ships in a timely and cost-effective manner. NAVSEA Groton, in coordination with Electric Boat (EB), manages submarine construction and repair, in teaming arrangements with a variety of partners. SUPSHIP Groton is NAVSEA's waterfront leadership in the Northeast Region. Major customers include NAVSEA Codes PMS 350, PMS 450, PMS 392, PMS 395, and the submarine force. The Supervisor of Shipbuilding, CAPT Don Mason, is one of twelve EDs currently assigned.

The SEAWOLF Class Project Office (Code 155) has three EDs assigned: CDR Bill Fields, the SEAWOLF Project Officer and PMS 350 PMR; CDR(s) Les Elkin, the SEAWOLF Waterfront Coordinator and CDR Fields' designated relief; and LCDR Joe Reason, the SSN-23 Multi-Mission Platform (MMP) Coordinator. *USS Seawolf (SSN-21)* and *USS Connecticut (SSN-22)* are completed and released to the Fleet. The final ship, *Jimmy Carter (SSN-23)* (http://www.chinfo.navy.mil/navpalib/cno/n87/usw/issue_5/ussjimmycarter.html), will be delivered in June 2004.

Three other EDs are involved full-time in the VIRGINIA Class Submarine Program (http://www.naval-technology.com/projects/nssn/ or http://www.chinfo.navy.mil/navpalib/cno/n87/usw/winter99/virginia_class.htm). On behalf of PMS 450, NAVSEA Groton's VIRGINIA Class Project Office (Code 156) oversees VIRGINIA class construction at Electric Boat's Groton, CT, and Quonset Point, RI sites. This project office also monitors the propulsion plant's Design Verification Test Program (DVTP), and the C3I system's Command and Control System Module Off-Hull Assembly and Test Site (COATS) test program (http://www.dtic.mil/ndia/support/conrad.pdf). The VIRGINIA Class Project Officer and PMS 450 Program Manager's Representative (PMR), CDR Dave Johnson; VIRGINIA Class Construction Manager, CDR(s) Gary Dunlap; and VIRGINIA Class NPES / COATS Coordinator and PMS 401 PMR, LCDR Francis Spencer, are EDs. LCDR Spencer occupies NAVSEA Groton's Combat Systems (66P) billet. VIRGINIA (SSN-774) is on track for delivery in June 2004, and is approximately 42% complete. Work is also underway on *Texas (SSN-775)* and *USS Hawaii (SSN-776)*, with *Texas* approximately 28% complete and Hawaii 3%. SSN 777 was recently named *North Carolina*; long-lead procurement is

See ***Rubber Meets Road,*** page 23

(Above) LCDR Francis E. Spencer, III monitors Combat Control Subsystem Operabilty Testing in the SSN 774 CCSM in the COATS Facility at Electric Boat in Groton.

(Left to right) ENS Norm St. Cyr, LCDR Joe Reason, CDR Bill Fields and CDR(S) Les Elkin by SSN 23 port retractable bow plan in Electric Boat's Land Level Ship Construction Facility, Building 260, looking aft. The MIP enclosure is visible in the background.

SSN 774 CCSM arrives in COATS.

SSB 774 Section 7 and RC, with DVTP Enclosure.

SUPSHIP Newport News – Building the Future, Servicing The Fleet

By LCDR Glenn D. Hofert, SUPSHIP Newport News

Times are busy in Newport News, Virginia and the Engineering Duty (ED) Officers are in the lead, managing several multi-billion dollar programs dealing with construction and overhaul of everything from Aircraft Carriers to Submarines. Our Supervisor of Shipbuilding CAPT Jeff Brooks and his Deputy, CAPT Kurt Schulze, lead a seasoned group of six CDR and six LCDR EDs that come from Surface, Carrier and Submarine walks of life and are specialized in Program Management and Manufacturing, Quality Assurance and Production acquisition career fields. A Command of just over 500 employees, SUPSHIP Newport News (SUPSHIPNN) provides coordination and oversight for Projects executed by the 17,000 employees of Newport News Shipbuilding & Drydock Company (NNS).

(Above): President George W. Bush and Mr. W. Fricks, CEO of Newport News Shipbuilding observe as Mrs. Nancy Reagan christens the RONALD REAGAN (CVN 76). Photo by Mr. Mike Dillard, Newport News Shipbuilding

In the New Construction Aircraft Carrier world CDR Brian Miller is leading the charge toward delivery of our nation's ninth NIMITZ Class CVN. Mrs. Nancy Reagan christened the *Ronald Reagan (CVN 76)* on 4 March 2001 with President Bush performing the keynote speech before a crowd of over 10,000. Launch Officer CDR(S) Kevin Terry observed the safe and exciting launch as she spilled out of Drydock 12 and came alongside her outfitting berth to begin the final construction prior to delivery to the Fleet in March 2003. As New Construction Carrier Program Manager's Representative (PMR), CDR Miller also met a major milestone in the CVN 77 (transition carrier to the CVNX class) program when the execution contract was signed in January 2001.

Aircraft Carrier Overhaul Project Office EDs at the brow of the USS Nimitz (CVN 68). (Left to right): CDR R. Soule, LCDR G. Hofert, LCDR M. Bowman, LCDR C. Clark, LCDR M. Amrozowicz, CDR(S) K. Terry. Photo by LCDR Mike Phares, SUPSHIP Newport News

In the Aircraft Carrier Overhaul side of the house, CDR Ralph Soule is the Carrier Overhaul Project Officer and PMR for Refueling Complex Overhauls (RCOH) assigned to Newport News Shipbuilding (NNS). His group is wrapping up the *USS Nimitz* (*CVN 68)* RCOH, starting the *USS Dwight D. Eisenhower (CVN 69)* RCOH, and planning the *USS Enterprise (CVN 65)* Extended Docking Selected Restricted Availability (EDSRA).

The *USS Nimitz (CVN 68)* RCOH is nearing completion of the first of the class RCOH. This 3.5 Million Man-Day RCOH started in May 1998 with re-deliver back to the Fleet in June 2001. Assistant Project Officers LCDR Mike Amrozowicz and CDR (S) Kevin Terry have led the SUPSHIP Newport News Project Team from beginning to end of this RCOH. Ship's Force EDs associated with this project include the *Nimitz* Chief Engineer, CDR Jim Brown, and Station/Shift Officer LT Jason Lloyd.

LCDR Mark Bowman is starting execution for the *USS Dwight D. Eisenhower (CVN* 69)

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Building the Future

Continued from page 13

RCOH. *"IKE"* will be the first RCOH to be conducted with Integrated Product and Process Development (IPPD) teams. This concept, which has proven successful in industries like Ford Motor Company and Boeing, incorporates unprecedented teaming between the government and contractor. Organizations participating include NNS, SUPSHIPNN, PMS 312, COMNAVAIRLANT and the extended planning yard (Norfolk Naval Shipyard (NNSY). Through this teaming and lessons learned from the *USS Nimitz* RCOH, the *CVN 69* RCOH will be much improved over the *CVN 68* RCOH.

LCDR Glenn Hofert is leading the planning effort of a uniquely challenging EDSRA for the *USS Enterprise (CVN 65).* SUPSHIPNN will provide the Naval Supervising Activity (NSA) responsibilities and coordination of an availability that is tipping the scales at 401,000 notional man-days and will be executed over a one-year period in Dry Dock #8 at NNSY. Starting in January 2002 this is the largest availability ever conducted by a shipyard (NNS) on a ship not located in their own shipyard. This availability is an example of how EDs and the entire Corporate NAVSEA Team have come together through teaming in keeping the U.S. Navy number one in the World.

CDR Craig Little heads the Aircraft Carrier Planning Office and has been extremely successful in integrating the previous PERA (CV) into the SUPSHIP Corporate structure. His team has developed the work packages for both the CVN 68/69 RCOH's and the CVN 65 EDSRA. Next on his plate is the CVN 70 RCOH and becoming the Life Cycle Manager of CVN's.

As the Assistant Project Officer for the VIRGINIA Class Submarine, LCDR Bob Phillips is leading SUPSHIPNNs' effort in that program's unique co-production environment. The VIRGINIA Class program relies on former rivals, Electric Boat Corporation (EBC) and NNS to co-produce the planned 30 ships of this class. The initial $4.2B four-ship acquisition requires EBC and NNS to construct the four submarines in modules, with NNS and EBC exchanging modules, to support delivery from alternate yards. EBC delivers the class namesake in 2004 and NNS follows with delivery of the *Texas (SSN 775)* in 2005. LCDR Phillips' responsibilities require constant interface with both contractors here at Newport News and frequent travel to EBC's facilities in Groton and Quonset Point. The partnership has fostered a strong working relationship with both PMS 450 and SUPSHIP Groton. In addition to helping lead the VIRGINIA program to success, the Submarine Design and New Construction Project Officer, CDR Greg Thomas, is the VIRGINIA Class Program Office's PMR. Greg is also the Project Officer for the Large Scale Vehicle *CUTTHROAT (LSV 2)* which is a scale model of the VIRGINIA Class submarine.

CUTTHROAT (LSV 2) Launching on November 15, 2000. Photo by MMCS (SS/SW) Tanner, SUPSHIP Newport News

As Project Officer of the Submarine and Surface Ship Repair Project Office, CDR Chris Harper is in charge of NNS contracts executed both above and below the ocean's surface. His Assistant Project Officer, LCDR Allan Andrew, is gaining experience on the ground floor of the "Submarine Factory" at NNSY. Building on the foundation of previous submarine overhauls, he is leading a group from SUPSHIPNN to facilitate the teaming effort between the private and public yards on the *USS San Francisco (SSN 711)* Engineered Refueling Overhaul (ERO). Helping coordinate the efforts of two of our six submarine shipyards has proven to be an extremely successful venture, specifically for work in the main ballast tanks and sail areas.

CDR Mary Zurowski keeps us all "in the box" as the Quality Assurance (QA) Officer. Her Department tracks, monitors, and resolves all Community QA "Issues" as they apply to SUPSHIPNN Projects. From functional audits to checkpoint validation and technical resolution, the QA group ensures quality is built into every NNS product delivered to the fleet.

All in all there is never a dull moment here at SUPSHIPNN. Whether you're interested in constructing, maintaining or overhauling the nation's largest warship or designing, developing and maintaining the latest and greatest undersea weapon you can't go wrong with a duty stop at Newport News at some time during your ED career.

SUBMEPP – An ED Navy of One!

By CAPT Dave Herbein, Commanding Officer, SUBMEPP

I thought that title might catch your eye. The rest of the story is I'm CO of Submarine Maintenance Engineering, Planning and Procurement Activity (SUBMEPP), a field activity of Team Submarine, and report to SEA 92, the Submarine Directorate of NAVSEA. We are located as a tenant on Portsmouth Naval Shipyard, in Kittery, Maine. I am the only khaki in my kingdom, populated by more than 200 of the finest civilian engineering, logistics, information technology, and administrative talents that money can buy. We centrally perform life-cycle engineering and management functions that keep our nation's submarines safe, reliable, and mission capable.

Some of you age-challenged readers may remember us as PERA (SS), established back in 1967. We have morphed through a few designation changes, attaining Field Activity status in April 1991. From 1989 through 1998, we were located off the shipyard in Portsmouth, NH, but fallout of BRAC 93 brought us back across the river to Seavey Island.

We support all U.S. submarines and an array of submersibles and other platforms. You may have used our products or benefited from our engineering services without realizing from whence they came. We produce the availability work packages for depot availabilities; we also produce schedules for "I" level maintenance in addition to the Master Job Catalog. All of these requirements flow out of the Class Maintenance Plans that are resident here, not only for submarines, but also for shore based trainers, Moored Training Ships, Dry Deck Shelters, and Submarine Rescue Chambers. We have the in-house engineering talent and delegated technical authority to maintain this spectrum of documents current and technically accurate. We use Reliability Centered Maintenance principles to make smart maintenance decisions as we all try to stretch the Fleets' maintenance dollars. I have SUBMEPP Customer Service reps in all submarine maintenance concentration areas (less San Diego, La Maddalena, and Guam) to ensure the prompt and personal care of our Fleet customer.

One of our more notable product lines is the library of Submarine Maintenance Standards (MS)---over three thousand documents that provide the technical "what to do" on a wide variety of components across all classes. The most distinctive attribute of the MS is the "exploded view" diagram of piece-parts and how they all fit together (…think Sears lawnmower owners' manual…), a real popular feature with sailors and mechanics.

CAPT Dave Herbein, CO, SUBMEPP

Currently, our most significant challenge is supporting NAVSEA and the Submarine Force to work through the "bow wave" of SSN 688 Class depot availabilities. In addition to the expected increase in our own workload, i.e., more AWPs to produce, more Work Negotiation Meetings to hold, et. al., we are also heavy engaged in NAVSEA's Submarine Factory concept. We are the Leaders of two of the eight "pillars", the major management initiatives of the Factory. Under the Material Pillar, simply stated, we are attempting to take anything to do with "material" out of the critical path of the availability. The other, Process Improvement Pillar, encompasses a host of business process and work requirement topics.

We are also the LANT/PAC CINCs' "keeper" for some widely used maintenance instructions. If you've ever used the Joint Fleet Maintenance Manual (JFMM) on-line, you've done so through our website, www.submepp.navy.mil. We also host the NAVSEA Tag-out Users Manual, which goes hand-in-hand with the JFMM. As we hack deeper into the information technology jungle of the 21st century, more and more of our products will be available 24/7.

Out of space, out of time. My PRD is June 2003; if you are submarine maintenance oriented and enjoy all four seasons (not two---winter and three months of bad sledding, as some would have you believe), this could be the place for you.

SWFLANT – A Strategic Weapons Factory in the Field

By LCDR Robert E. Kaufman, SWFLANT Kings Bay, GA

Strategic Weapons Facility, Atlantic, (SWFLANT) is located aboard the Naval Submarine Base Kings Bay just 40 miles from Jacksonville near historic St. Mary's, GA. SWFLANT's mission is to provide strategic missiles and strategic weapons system support to the Fleet Ballistic Missile (FBM) fleet. SWFLANT is a blend of Navy, Marine Corps, Civil Service, and contractors. SWFLANT is a "factory in the field".

We Make TRIDENT II Missiles!

SWFLANT assembles and tests the TRIDENT II (D5) missile and the processing, guidance and launcher subsystems. The D5 is a three stage, inertially guided, solid propellant ballistic missile launched from TRIDENT Class SSBNs; it is the latest in a line of Fleet Ballistic Missiles beginning with the Polaris A-1 in 1960.

A Team Effort

At SWFLANT people our are greatest asset. The Commanding Officer, Captain John Friend, safely, effectively and efficiently integrates the various organizations into the SWFLANT team. SWFLANT employs approximately 150 civilians, 500 military personnel (Navy/Marines), and 650 contractor personnel.

Active Duty Navy personnel are billeted in traditional military positions. SWFLANT is billeted for three Engineering Duty (ED) Officers : the Commanding Officer, Production Officer, and the Engineering Division Officer.

Marine Corps Security Force Company (MCSFCo) provides security of assets with vital national interest. MCSFCo also provides security in the limited area, at the waterfront during operations, and during convoys.

Civil Service personnel provide project management, engineering, quality assurance, financial management, crane operations, rigging, and safety oversight.

The Contractors are an integral part of SWFLANT operations. They provide missile assembly, storage, transportation, re-entry body operations, launcher systems, guidance systems, calibration, engineering, and Support Equipment maintenance.

A Major Production Facility

There are 24 buildings, 66 Missile Motor Magazines and over 800 acres in the SWFLANT industrial complex. Components are shipped here from more than 1,800 suppliers and subcontractors located in forty-eight states.

The Missile Assembly Process

The Inert Components and Controls Building (ICCB) supports missile inert components processing, component testing, and missile guidance system processing. Installation of flight packages and integrated valve assemblies into the Equipment Section (ES) are accomplished here.

Rocket motors arrive at the Motor Transfer Facility (MTF) and are transported to the Motor Inspection Building (MIB) for inspection, testing, and buildup.

The Missile Assembly Building (MAB) supports ordnance buildup operations, missile system testing and final inspection. The Vertical Missile Packaging Building (VMPB) provides complete processing, testing, re-entry system mating and packaging.

After the missile has been packaged it is transported by the movement team to the Explosive Handling Wharf (EHW). The EHW supports SSBN missile onload/offload operations.

See ***Strategic Weapons Factory,*** page 24

CAPT John Friend escorting former Secretary of the Navy, Mr. Richard S. Danzig on his tour of SWFLANT.

Above: LCDR Rodney Luck observing evolution at the Explosive Handling Warf.

Above: LCDR Robert E. Kaufman viewing the D5 equipment section with Quality Assurance Specialist Marion Wall.

Combat Systems ED – Looking Out for the Fleet

By CAPT Deborah R. Stiltner and CDR Dave Kiel, NAVSEA (PMS 473)

I have always enjoyed my time as an Engineering Duty (ED) Officer. However, I had no idea being the program manager of a major weapons program would be such a coup. There is truth in that old adage, "I must have died and gone to Heaven."

As the Program Manager (PM) of the Electronic Warfare Systems Program Office (PMS 473), I have responsibility over three branches that cover the "cradle to grave" philosophy of program management. Those are (1) the Active Integrated Electronic Warfare System (AN/SLY-2 AIEWS) Branch, responsible for the AIEWS development effort; (2) the Decoys Branch responsible for the production and fleet installations of the MK-53 Decoy Launching System (Nulka); and (3) the In-Service EW Branch responsible for the life-cycle support of the AN/SLQ-32, chaff, Rubber Duck (SLQ-49) and other decoys. All stages have different and exciting challenges for EDs to tackle.

As a PM, the responsibility is big but so are the rewards. You have the opportunity to see the vision and put it in place. You make the call on what the technical requirement is, ensuring that it interfaces with other systems, and you ensure the Navy can afford it. There are a lot of rules and processes, but as PM everyone looks to you to set the plan and make sure it happens.

My program directly impacts the fleet today. For example, my Associate Program Manager for EW In-Service Systems, Mr. Tom Wappes and I are currently working with the Fleet TYCOM EW representatives to establish EW maintenance certification procedures for U.S. weapons intermediate maintenance facilities around the world. We also have realized that in service EW system repair procedures have not been standardized, so we are reviewing those maintenance assignment and budgeting policies."

Another of my Associate Program Managers is CDR Dave Kiel. He is in charge of the Advanced Integrated Electronic Warfare System (AIEWS). He is equally excited about the role of the ED in a Program Office.

"It's the perfect first job in a program office," he says. He adds, "it's a great place to get my feet wet. I've got a lot of leeway as an Associate PM and it's the natural progression to become a Program Manager. What is most exciting is that we're developing a new system under acquisition reform with an accelerated schedule and cost constraints. We're using existing technology in innovative "state of the practice" ways to meet a set of requirements never met before by an EW system.… anywhere. AIEWS represents a revolution in sensor technology. It will provide the fleet with a precision direction finding capability and the necessary sensitivity to augment existing combat systems/radar pictures. It will revolutionize situational awareness, provide engagement support for hardkill, provide anti-ship missile defense capabilities well above SLQ-32 and AIEWS Increment 2 will offer improved electronic attack capabilities. That's a revolution!"

CAPT Deb Stiltner and CDR David Kiel check AIEWS.

Both of us are elated about AIEWS having recently completed a Critical Performance Demonstration – CDP#2. The program office installed a prototype aboard the AEGIS Cruiser

See ***Combat Systems ED***, page 24

AIEWS prototype installed for Demo CPD-2 aboard the USS Philippine Sea (CG 58) in September 2000.

STANDARD Missile-3 FTR-1A Mission Success

By LCDR Rob Thornlow, PEO Theater Surface Combatants (PMS 422B11)

On January 25, 2001, *USS Lake Erie (CG-70)* successfully launched a STANDARD Missile-3 (SM-3) Aegis Leap Intercept (ALI) missile against an Aries target in the exo-atmosphere. The Aries target utilized the second stage of a Minuteman I to reach an altitude of 325km and a maximum speed of 2500 m/s. This was the first successful Aegis launch of a STANDARD Missile against a Tactical Ballistic Missile (TBM). Under the most stressful engagement conditions, including longest range/highest altitude/fastest closing speeds, the SM-3 and Aegis Weapon System completely met all primary and secondary objectives of the mission.

The Theater Ballistic Missile Defense (TBMD) mission is critical to the security of US and Allied Forces deployed overseas. Our national strategy calls for a rapid airlift and sealift capability to place our forces in areas of conflict. TBMs that can reach these staging areas pose a threat to US and Allied Forces. The STANDARD Missile Program is capitalizing on 30 plus years of research, engineering, development, and production experience to counter this TBM threat. The SM-3 is the latest product in the evolutionary design approach of STANDARD Missile. There are presently 6 variants of STANDARD Missile in the Fleet ranging from SM-1 BLK VI to SM-2 BLK IV. Each new upgrade was built upon the foundation of the previous variant taking full advantage of STANDARD Missiles' experienced industrial base that has been designing and producing surface to air missiles for over 30 years. The SM-2 BLK IVA, presently in development like SM-3, is the Navy's Area TBMD missile that also has an AAW capability which was built upon the SM-2 BLK IV variant. SM-4, Land Attack STANDARD Missile (LASM), is building upon the engineering advances acquired during the SM-3 development. Leveraging off of the legacy of STANDARD Missile and the experience of the STANDARD Missile industrial base is critical for the success of TBM defense and the future production of Navy AAW and Land Attack missiles.

SM-3 was designed to provide the Fleet with the capability to defeat medium and long range TBMs. It is a four stage missile with the first two stages common to SM-2 BLK IV and IVA, i.e. the MK 72 Booster and the MK 104 Dual Thrust Rocket Motor (DTRM). The DTRM receives acceleration commands via the Aegis uplink during flight to adjust the intercept trajectory. The Third Stage Rocket Motor (TSRM) and the fourth stage Kinetic Warhead (KW) are unique to SM-3. The TSRM consists of a dual pulse rocket motor assembly, a moveable flex seal nozzle, Thrust Vector Actuators (TVAs), and a hybrid warm/cold gas Attitude Control System (ACS). Following second-stage separation, the TSRM Pulse 1 is ignited and the cold gas ACS is used for roll capture. Target and missile position data is uplinked from the ship and processed on board the SM-3 with GPS Aided Inertial Navigation System (GAINS) data inherent to the missile. Upon completion of Pulse 1 burnout, the nosecone is ejected via a pitch-to-ditch maneuver, exposing the KW to space. ACS warm and cold gas thrusters are used in the nosecone pitch-to-ditch maneuvers and to maintain proper missile attitude between pulses. TSRM Pulse 2 operations are similar to Pulse 1. Onboard guidance computes a trajectory reference vector along which the third stage must accelerate to arrive at the burnout state necessary to be on a collision course with the target. After Pulse 2 burnout, the KW (fourth stage) is ejected. The KW operates autonomously after being ejected from the third stage to seek, acquire, track, and divert to intercept the target. The KW consists of a Seeker Assembly, a Guidance Assembly and a Solid Divert and Attitude Control System (SDACS). The IR Seeker is composed of a telescope, a 256 x 256 mercury cadmium telluride Focal Plane Array (FPA), a cryogenic cooling system, and a signal processor. The Guidance Unit computes the KW's orientation, velocity, and position using

See ***Standard Missile-3*** page 24

***LCDR Mike Ladner (left), OIC, TECHREP Tucson AZ, and LCDR Rob Thornlow, SM-3 ALI Project Engineer inspecting the SM-3 flight round. Photo courtesy of RSC*, Tucson, AZ.**

NAVPGSCOL – Technical Education in the 21th Century

By CDR William T. "Tom" McCoy, Naval Postgraduate School, Monterey, CA

Engineering Duty (ED) Officers and the Naval Postgraduate School (NPS) have teamed together to meet the technical needs of the Navy for almost a century. From the days of the Great White Fleet to the launch of a satellite from the Space Shuttle, NPS has been providing the education necessary to help our EDs meet the ever increasing technical challenges of their times.

Almost a century ago, Theodore Roosevelt's vision for a fleet that could sail around the globe and put the United States on the world stage severely pushed the technology of the time. The Naval Engineers and Naval Constructors, who would later become today's Engineering Duty Officers, met that challenge. It was a time of unprecedented change within the Navy, where piston driven steam engines gave way to smoother running turbines. Black powder and hand-aimed guns gave way to smokeless powder and roll-stabilized guns. The Navy recognized that a corps of technically educated officers was needed to guide it into the future. On June 9, 1909, less than four months after the completion of the record-setting world cruise of the Great White Fleet, Secretary of the Navy George von. L. Meyer signed General Order No. 27 establishing a School of Marine Engineering at Annapolis. That school would grow into what is now the Naval Postgraduate School and solidify the marriage of technical education and EDs in the Navy.

The flood of technology has not slowed down. As the Navy moves into the 21st Century, EDs at NPS are learning about Integrated Power Systems, Electric Drive Propulsion, Directed Energy Weapons and truly Integrated Combat Systems. NPS is working alongside industry, as they partner with the Navy in research and laboratories. The method of educating is also rapidly changing. Interdisciplinary education has all but eliminated the artificial 'pump-kicker' and 'cannon-cocker' divisions. Now, NPS classes are being broadcast via VTC to field activities and various commands making Master of Science degrees available through Distance Learning.

Nestled between Carmel and the Monterey beach of central California, NPS is flanked by wine country and beautiful vistas of the Pacific Ocean. There, EDs are enrolled in Space Systems Engineering, Mechanical Engineering, Electrical Engineering, Computer Science and Combat Systems curricula. Their thesis research projects include Wireless LAN's on ships and submarines, vibrations on the Space Station and Free Electron LASERs. EDs directly support NAVSEA, PEO's, NSWC's and NUWC's, as well as ONR and NRL.

One of the most highly acclaimed interdisciplinary programs at NPS is the Total Ship Systems Engineering (TSSE) program. Organized and run by retired ED Captain Chuck Calvano, the TSSE program emphasizes the overarching need for integration among and across technologies and traditional disciplines. The students learn Systems Engineering, while still earning a Master's degree in one of the traditional cores of Mechanical Engineering, Electrical Engineering or Combat Systems.

See ***Technical Education,*** page 23

Left: LT Howard Markle adjusts the DDG 51 model in the Hydrodynamics Lab flow tank. Center: (Left to right) LCDR James Ivey, LT Lynn Fodrea and LT Ryan Kuchler examine computer generated offsets in the TSSE Lab. Right: PhD Student LT Keith Peterson adjusts sample in one of the Electron Microscopes. (Photos courtesy of NAVPGSCOL, Monterey)

Engineering Duty Down Under

By LCDR(S) Jack A. Starr, USN Personnel Exchange Program Officer, Sydney, Australia

When glancing through the job assignment possibilities within our community, one should consider the postings that allow us to assist our allies with the ship and ship systems that originate in the U.S. This is just the very thing that I've had the opportunity to do over the last five months, and I'm doing it in one of the Personnel Exchange Program (PEP) billets offered to Engineering Duty (ED) Officers. As my PEP billet is located in Sydney, Australia, the initial attraction was certainly the location. As it turns out, the job has proven to be most rewarding, as well.

This billet was created in 1974, and at present, is the only PEP billet in Australia held by an ED Officer. Although it has evolved over the years, it has always been dedicated to assisting the Royal Australian Navy (RAN) maintain the ships and equipment Australia has purchased from the USA. At present, my job position is located within the FFG Sustainment Office of the Defence Material Organization, Maritime Services Division. As an Exchange Officer, I am administratively attached to the U.S. Embassy in Canberra, but report directly to the RAN for assigned duties. The exchange counterpart to this billet is at SUPSHIP San Diego, where a RAN Lieutenant Commander is assigned as a Ship Superintendent.

The FFG Sustainment Office is physically located at the Garden Island Dockyard in Sydney, just slightly east of the City Center. It consists of a Supportability Section and an Engineering/ Configuration Management Section, with the two together functioning much like a Program Office would in our NAVSEA organization. The PEP billet holder is the Engineering and Configuration Manager for the in-service support of the RAN FFG-7 Class. This includes the planning, budgeting and installation of trials and alterations for HM&E, C4ISR and Combat Ship Systems.

FFGs all in a row – HMAS Adelaide, HMAS Canberra, HMAS Sydney, HMAS Darwin and HMAS Newcastle execute some smart ship-driving for this unique photograph. Maintaining these ships is the focus of our ED PEP billet in Australia.

Another unique aspect of this billet is acting as the Foreign Military Sales (FMS) Case Manager for the RAN FFG Follow-On Support Cases. FMS cases are contractual arrangements between the governments of Australia and the U.S. which currently enable the RAN to buy applicable USN ALTS, as well as field changes, technical services, and a host of different kinds of documentation. NAVSEA PMS-380 is the agent in the USA for the FMS cases that our office administers on behalf of the RAN. In addition to the FMS cases, I also administer an Engineering Services Budget to produce installation specifications, develop configuration changes, as well as to perform tests, trials and surveys. Other aspects of the billet include the many opportunities to interact with the major Australian Defense projects planned for the FFG-7 Class. One of the major projects on the horizon for the RAN is the FFG Upgrade Program. This will give the Australians a major Combat System upgrade for their FFGs, and will include the installation of a MK 41 VLS.

In addition to the many opportunities to develop professionally, there are many opportunities to perform representational duties as a member of the PEP here in Australia. Exchange Officers are also entitled to the same privileges as an RAN (ADF) Service Member, and travel opportunities abound within Australia. It's a wonderful country to live and work in. If you have any questions regarding the PEP opportunities within the Royal Australian Navy, please don't hesitate to contact me. E-mail is Jack.Starr@defence.gov.au Cheers, mate!

Nanos

Continued from page 2

Scope of Phases

NEMAIS will be implemented as a six-phase project, comprised of Phases **A** through **F**. This phased approach accounts for all levels of maintenance as follows:

A: Mid-Atlantic Regional Maintenance Center (Regional Support Group (RSG)/ Shore Intermediate Maintenance Activity (SIMA) Norfolk + selected Regional Repair Centers (RRCs) in the Mid-Atlantic Region + the Nuclear Regional Maintenance Department (NRMD)).

B: Norfolk Naval Shipyard (NNSY).

C: Legacy data conversion of national systems, concurrent with phase B.

D: Remaining maintenance regions (7).

E: Supervisor of Shipbuilding sites.

F: Mobile Enterprise Resource Planning—aboard 300 Navy ships.

How Long Will It Take?

The timeline for completion of phases **A** through **E** will run to the end of Fiscal Year 2005 (FY-05). We expect to incorporate more than 28,000 users and support 9,400 concurrent users. The success of the implementation of Phase **A** will be reviewed before authorization is given to proceed with Phase **B**. Successful completion of Phase **B** will be documented by an updated Business Case Analysis (BCA). As necessary, portions of Phase **C** implementation will begin during Phase **A** to support configuration requirements. Likewise, Phases **D** and **E** will be executed after a progress review of the implementation of Phases **A** and **B**.

The Costs of ERP

Companies that have implemented ERP have found the budgeting process for such an undertaking to be unnerving at times. Many would agree that certain costs are commonly overlooked or underestimated. These are some of the areas where we have scrutinized costs:

- Training—These costs are often underestimated. Workers almost invariably need to learn a new set of processes, not just get accustomed to a new software interface.
- Integration and testing—Links between ERP packages and other software that have to be built on a case-by-case basis are often another source of underestimated costs. Given the customization of our core ERP package, the costs of integrating, testing, and maintaining the system are major concerns.
- Data conversion and analysis—Data conversion can be an tough process; its akin to cleaning house, with all the little decisions to throw out or keep numerous items. As data go through this process, they must be combined with data from external systems for analysis. This requires a lot of work to make things run smoothly. Refreshing all the stored ERP data on a daily basis is no small task either. Custom programming to minimize such analyses can be yet another major cost of doing business this way.

As we move through the implementation phases, we will continue to look carefully at these and other areas so that we can avoid unforeseen budget problems.

Where We Will Be

Eventually, ERP will improve and standardize business process across all levels of Navy maintenance. Sailors and ship and battle group commanders will see in real-time the maintenance and material status of each ship from a common database. This will allow them to better assess current and future readiness. In addition, maintenance activity commanders will have real-time indicators of their priorities and the available resources for maintaining the Fleet. Also, type commanders will have improved real-time information to more effectively allocate scarce maintenance dollars. Empowered with these capabilities, NAVSEA will fit the image of an international company with whom you would want to do business.

Initially, embracing ERP will challenge us, but there is no acceptable alternative solution. With ERP installed at all shore installations and onboard all our ships, our Navy will have the tremendous maintenance support

More information on this project can be found at http://nemais.navsea.navy.mil. You also can call John Hammond, the Project Information Officer at 757-445-6566 or send him an e-mail at Jhammond@marmc.spear.navy.mil.

Yount

Continued from page 3

that our life's work is both important and necessary. In short, things have a way of working out better than you think. My challenge to you -- work with us to serve gracefully, help your families be a part of your success, and give them the opportunity to experience the "adventure" of our lifestyle –I guarantee, they are more resilient than you think. Lead us to your future, don't just force us to order you to success.

Carnevale

Continued from page 4

Maintenance Consolidation. Both Fleets are poised to take the next step in intermediate and depot level consolidation. PACFLT is prepared to merge PSNSY and TRF Bangor while LANTFLT is ready to begin a pilot combining the quality assurance, material, safety and engineering & planning organizations of NNSY and SIMA Norfolk. We are awaiting the results of an I&D Consolidation CNO Executive Board, which should meet about the time this newsletter, goes to press.

Maintenance Training. The Navy is making progress in the Navy Afloat Maintenance Training System (NAMTS). Our young sailors are receiving journeyman level training and qualification at our intermediate maintenance activities. The challenge is to balance the billets ashore with both the billets afloat and the workload.

Workforce Management. While there clearly exists excess infrastructure in both the public and private sectors, the skilled workforce available to accomplish Navy maintenance is dwindling to levels low enough to present substantial risk for the future. Our public facilities have been substantially downsized. Each time the private sector lays off skilled workers, there is a portion of those workers that choose to work in an alternative industry and do not return to ship maintenance. Partnering between the public and private sector is occurring up and down the Atlantic coast to make the most of those resources.

On a final note, I would be remiss if I did not commend LCDR David Wagnon from LANTFLT, CDR Fred Longenecker from SURFLANT, LCDR Ron Van Court from AIRLANT, and LCDR Keith Swensen from SUBLANT on the terrific job they did in establishing our Fleet maintenance requirements in the PR03 Baseline Assessment process. The future is built on budgets and the budgets are built on hard work. Well done.

Sullivan

Continued from page 7

advice. Get to know the community early in your career. In such a diverse community, it is difficult to get around to see all parts of our culture, but you should take advantage of any opportunity to "see the community". This may mean serving on a selection board, going to symposia, reading EDQP papers, or even accessing the ED directory and placing a call to a senior person in a field you would like to try. The detailers can't do this for you, you must be proactive.

- Get and stick with a mentor. The flags have Captains, the Captains have Commanders, and so on down the line. Is this a formal, rigorous assignment process? No, but again, the responsibility rests on your shoulders. Pick a senior person you respect and count on to give you good advice and go ahead and ask! Chances are they would be happy to take you on. We have been stressing with our senior folks that mentoring is really a part of their job! Sit down with your mentor every six months or so, and go over your hopes, desires, disappointments, and discuss changes in career tracks, etc. Certainly provide him or her with your career planner. The electronic age makes this much easier than in the past.
- Be flexible. The detailers will work overtime to try to match your desires with the needs of the Navy, but you have to come to the table early with your career desires. We still fill fleet jobs first, and you will not always get your first choice. But you will usually get close.
- Be realistic. Know that each major command job at the O-6 level has a set of qualification "wickets" you should meet. There are always exceptions, but you need to find out what your "dream job" requires and tailor your duty stations to get you the "tickets" you need to get there. There are really no set career tracks for most major command positions, but you still need to have the basics, such as DAWIA qualifications, schools, time in program offices for acquisition jobs, etc.
- Prepare for the future. Who is your relief? Who is your relief's relief? These are not idle questions. If you look around, you will see that there are very few folks in your part of this community. With 850 EDs and at least five subcultures, when you split down the ranks, it quickly becomes apparent that there is not a vast pool of reserves for us to draw from. The detailers usually can identify only one or two names for every detaching officer, and frequently, there is no one and we have to dig hard to come up with replacements. You should start thinking about those behind you. How you will "grow" your relief, who you will mentor, and how the community should manage your subspecialty.

Bottom line. The career management process works best when you are an active participant. Get involved in the future. Help the detailers to help you with your own future. Then turn around and work with those who will follow in your footsteps.

Shaping the Fleet

Continued for page 10

The Business of Reseach

Research programs are funded by the Chief of Naval Research, the Naval Systems Commands, and other Navy sources; government agencies, such as the U.S. Air Force, Defense Advanced Research Projects Agency (DARPA), the Department of Energy (DOE), and National Aeronautics and Space Administration (NASA); and several non-government activities.

"As a Navy Working Capital Fund organization with an annual budget of about $800 million, the NRL management team must judiciously execute our work in an efficient and productive way," CAPT Rau said.

"In our day-to-day operations, I constantly focus on the four Capitals of the Laboratory: Business Capital -- using financially responsible business practices; Physical Capital – providing state-of-the-art research centers that invigorate the mind; Intellectual Capital – recruiting, retaining, and promoting the finest researchers the nation can produce; and Scientific Capital – what we have provided to the Navy/ Marine Corps or other sponsors in terms of understanding, demonstrations, and hardware," he added.

"Together, these items result in an internationally recognized U.S. Navy research facility that attracts, and retains, the outstanding scientific, engineering, and support talent required to keep the U.S. Navy and Marine Corps the most formidable naval fighting force in the world," CAPT Rau concluded.

Rubber Meets Road

Continued from page 12

underway. As the VIRGINIA class will be the future workhorses of the submarine force, a 30-ship class is planned.

The Commissioned Submarine Project Office (Code 157) employs three EDs. LCDR Vic Reck and LT Chris Hanson work as ship coordinators for repair availabilities, under the direction of the Project Officer, CDR Dennis Logan. Code 157 is heavily involved in Northeast Regional Maintenance (http://www.csg2.navy.mil/NERM/) initiatives, including the new (contract award 3/2/01) Nuclear Regional Maintenance Department (NRMD). NAVSEA Groton anticipates an increase in submarine repair (RAVs, TAVs, and SRAs) and other regional maintenance initiatives in the near future (e.g. New England Maintenance Manpower Initiative (NEMMI), New London floating drydocks contract, and Submarine Team One).

The NAVSEA Groton Engineering Department (Code 200) is headed by CDR Kevin Conowitch. Comprised of approximately 50 civilian engineers and technicians, this department is involved in SEAWOLF Class fleet integration and SSN-23/ MMP construction support, VIRGINIA class design and construction change reviews, the Large Scale Vehicle (LSV-2 Cutthroat) program, SSGN concept studies, and the CVNX program, as well as maintenance availabilities. Engineering Officer is NAVSEA Groton's only SPRDE billet, for DAWIA purposes.

The NAVSEA Groton Quality Assurance Department (QA) is headed by LCDR Gary Kirkpatrick. The QA Department ensures the products delivered by the contractor fully meet the contract requirements through the use of documentation review, procedure evaluations, product verification inspections, audits, corrective actions and data analysis. The department contains approximately 40 civilian quality control technicians and staffers, and works on both new construction programs, as well as maintenance availabilities, at both Groton and Quonset Point.

Technical Education

Continued from page 19

The results of their design work have been briefed at the CNO level and include the SEA LANCE version of the Street Fighter concept, the Surface Warfare Test Ship and the Marine Prepositioning Ships for 2010.

In today's world one thing is certain: The technical complexity of the Navy will continue to increase and the need for a highly educated technical corps of EDs will also increase. As it has done in the past, the Naval Postgraduate School will continue to provide that technical education essential to all EDs and the Navy. Education has proven essential to EDs and the Navy for nearly a century and will continue to be so in the next.

Strategic Weapons Factory

Continued from page 16

During the last year; while maintaining the highest possible standards of Safety, Security, and Quality; SWFLANT assembled 16 D5 missiles, disassembled 27 fleet return missiles, and reassembled 24 D5 missiles that were on patrol. SWFLANT loaded 29 and offloaded 24 tactical D5 missiles from SSBNs.

SWFLANT production workload also includes storage, maintenance and fleet support for the Tomahawk Land Attack Missile Nuclear (TLAM/N) weapon system. SWFLANT supported the Strategic Arms Reduction Treaty with two Data Update and two Reentry Vehicle On-Site Inspections.

SWFLANT provides assembled missiles and guidance systems to the UK SSBN's. This US/UK historic relationship started with the 1962 Polaris sales agreement and was updated to include the TRIDENT II (D5) system.

Assembly of the first tactical TRIDENT II (D5) Fleet Ballistic Missile brought the facility to operational status during November 1988. The TRIDENT II (D5) program has accumulated an unparalleled 92 successive, successful TRIDENT-II test flights. With confidence of our past successes, the SWFLANT government industry team will continue to improve and provide high quality strategic missiles and system support to the fleet.

America's High Tech Dilemma

By Lyric Wallwork Winik, Washington Post

Parade Magazine, April 8, 2001

American students are disappearing from our top engineering and science schools. Nationwide, 27% of graduate students in these fields now come from aboard, and their number is rising. (Nearly 40% of all graduate students at MIT, for example, are foreigners.) But while many foreign students once stayed here after graduation, more and more are going home. If foreigners can't be enticed to stay, and our own students aren't interested in engineering or science, who will fill high-tech positions needed to keep America on top in the 21th century?

Combat Systems ED

Continued from page 17

USS Philippine Sea to gather data that validated an important engineering simulation for the algorithms needed in the AIEWS receiver system. It successfully proved the design approach and that the algorithms would meet the systems' requirements. We and the prime contractor, Lockheed Martin, were able to demonstrate capability that helped prove we had solved an important technical issue and justified continued funding. This was exciting because the Navy has attempted several times over the last decade to start a viable advanced EW program to replace the aging SLQ-32

For those EDs interested in combat systems acquisition, there is nothing like being a Program Manager.

Standard Missile-3

Continued from page 18

IMU data and target data from the seeker. It then issues propulsion and attitude control commands to the SDACS to intercept the target. The SDACS provides the divert and attitude control for the KW. It contains a three pulse gas generator, a Main Thruster Assembly (MTA), and an Attitude Control Assembly (ACA).

The success of FTR-1A was extraordinary. This was the first flight of the dual pulse TSRM and the first time the missile's 256 x 256 FPA has tracked a target in space. The KW was inert (the SDACS did not have live propellant grains) so an intercept was not attempted. However the closest point of approach between the KW and the target was well within system specifications. *USS Lake Erie* crew's performance was flawless, as was the control/pointing accuracy of the Aegis Weapon System. Team members at Pacific Missile Range Facility (PMRF) were total professionals and the operation went off without a hitch. Next in the flight sequence is an intercept attempt later this year once the SDACS is finished with qualification.

WASHINGTON DC ENGINEERING DUTY OFFICER'S MARDI GRAS COSTUME BALL 10 FEBRUARY 2001


Linda Lengerich & RADM Tony Lengerich


RADM Dale Baugh


RADM Roland Knapp and Jean Knapp


Connie McGinley, VADM Pete Nanos and RADM Skip McGinley (Ret)


CAPT John Butler, CAPT Chuck Goddard, Melanie Harvey and CDR Mike Schwartz


Dave Tuma & RADM Kate Paige


RADM Stephen Israel


RADM George Yount


CDR Hank Zajic and Melanie Zajic


LCDR Chris Meyer & CDR Tim Atkinson


RADM Denny Dwyer and Eva Dwyer


CDR Joe Giaquinto, Joanne Nanos and Susan Giaquinto


RADM John Claman (Ret) and Joyce Claman


CAPT Clark Orzalli, CAPT Doug Rau and Dale Orzalli

Photos by Patsy S. Morgan

ENGINEERING DUTY OFFICER SCHOOL
2001B-1 Basic Course/2001R-1 Reserve Course
8 Jan - 16 Feb 01/ 8 Jan –19 Jan 01

Front Row: LCDR Marvin Campbell (Course Director), CDR James Krafty, LT Peter Corcoran III, LT Lloyd Sitkoff, LT Tracie Andrusiak, LTJG Fernando Santos, LT James Kalowsky, LT Mark Matthews, LTJG Elmer Roman, LT Stephan Meade, LCDR Kellog Sharp, CAPT John Exell (Commanding Officer) Back Row: CDR Bob Vince (Staff), LCDR Travis Smith, LT David Monti, LT Brian Metcalf, LTJG Robert Mott, LCDR Scott Davis, LCDR Brian Murphy, LTJG Andrew Mutch, LCDR Alan Rechel, LTJG Todd Jack, Dr. Mary Davidson (Deputy Director), CDR Kurt Crake (Staff)

ENGINEERING DUTY OFFICER SCHOOL
Senior Course 2001S-1
5-16 March 2001

First Row: CDR Bob Vince (Course Director), CDR Jerry Coleman, CDR Mary Logsdon, CDR Tim Mull, CDR Kevin Torsiello, CDR Mark Stanko, CDR Steve Mitchell, CDR Joe Yusician, CDR Deet Lamade, CAPT John Exell (Commanding Officer) Second Row: LCDR Kurt Crake (Staff), CDR Chip Lagdon, CDR (S) Gary Dunlap, CDR Jim Chisum, CDR Bob Peltier, CDR(S) Chuck Espinosa, CDR (S) Heidi Piper, CDR Jim Syring, CDR Ed Ingles, CDR Dean Krestos, CDR Gunnar Galsgaard, CDR Steve Iwanowicz, CDR Pete Schupp, CDR (S) Buzz Lundblad, Dr. Mary Davidson (Deputy Director) Not Pictured: CDR Marty Williams

CHANGES OF COMMAND

DATE	COMMAND	OUTGOING	INCOMING
12 FEB 2001	PM PEO CARRIERS (PMS 378)	CAPT JOHN T. MANVEL, JR.	CAPT DUDLEY B. BERTHOLD
02 FEB 2001	OIC SSC CHASN DET NORVA	CDR ROBBY L. KNIGHT	CDR ARTHUR B. BILLINGSLEY JR



FY-02 SELECTION BOARD RESULTS

CAPTAIN SELECTEES

BEHRLE, CHARLES D.	PEO (S) (PMS 500T)	MCGETTIGAN, JOSEPH L.	CO SCSC WALLOPS ISLAND
CAMPBELL, JOSEPH F.	NORFOLK NAVSHIPYD	MCMAHON, MICHAEL E.	USS CARL VINSON (CVN 70)
CANN, GLENN E.	NORFOLK NAVSHIPYD	MOWERY, JARRETT M.	CINCPACFLT
CONNOLLY, EDWARD M.	NAVSEA (PMS 395)	PEDERSEN, DEAN M.	PEO TSC (PMS 467)
ECCLES, THOMAS J.	PEO SUBS (PMS 450)	PRICE, BYRON K.	BALMISSILEDEF ORG
FELDMANN, PEGGY A.	PEO IT	REED, JEFFREY S.	PEO SUBS (PMS 350)
GIAQUINTO, JOSEPH	NAVSEA (SEA 53)	SCHWARTZ, MICHAEL A.	NAVSEA (PMS 312)
HOOPER, RICHARD W.	ASN (RD&A)	SUDOL, PATRICIA M.	OIC RESUPSHIP INGLESIDE
KERR, GIBSON B.	PEO SUBS (PMS 401)	SYCHTERZ, JOSEPH A.	OPNAV (N814)
MARVIN, RICHARD D., JR.	DIRDIVOFNREACDOE	TAYLOR, KEVIN B.	PUGET SOUND NAVSHIPYD
MCCLOSKEY, MARGARET A.	COMNAVAIRPAC		

MARCH 2001 LATERAL TRANSFER BOARD SELECTEES

NAME	DUTY STATION	NAME	DUTY STATION
BARSALEAU, DEAN A.	FTCOMBATRCENLANT	KALINSKI, MICHAEL E.	USS HIGGINS (DDG 76)
BRISAR, JON D.	NETC NEWPORT RI	LARSON, PAUL A.	USNA ANNAPOLIS MD
CHRISTENSEN, JOHN A.	USS BLUE RIDGE (LCC 19)	LEMMERANDE, TOBIAS J.	STU NAVPGSCOL
CHUHRAN, CHRISTOPHER	USS HARPERS FERRY (LSD 49)	LOCK, JEFFREY S.	USS PELELIU (LHA 5)
DITURI, JOSEPH	PH NAVSHIPYD & IMF	ORELLANO, RAMIRO E.	USS BUNKER HILL (CG 52)
DUBOIS, HAROLD W.	HQ AF SOUTH NAPLES IT	PERCHALSKI, STEVEN J.	STU NAVPGSCOL
EBERT, KENNETH A.	NAVSPACECOMOPSEL	ROTHENHAUS, KURT J.	USS O'BRIEN (DD 975)
FILLIUS, JAMES B.	USS NASHVILLE (LPD 13)	SPOTTS, CONSTANCE R.	USS A. BURKE (DDG 51)
GALLAGHER, KEVIN R.	SWOSCOLCOM NEWPORT RI	VANDENBERG, SCOTT M.	USS HS TRUMAN (CVN 75)
GISH, LYNN A.	USNA ANNAPOLIS MD	WARNOCK, DWIGHT S.	USS TOLEDO (SSN 769)
GRANT, ANDREW G.	USS CHIEF (MCM 14)	WILLIAMS, DOUGLAS L.	STU NAVPGSCOL
HUGHES, JOHN B.	STU NAVPGSCOL	WOLFSON, DIANNA	USS G. WASHINGTON (CVN73)

CHANGE OF DUTY

RANK	NAME	TO	REPORT DATE
CAPT	BERTHOLD, DUDLEY B.	PEO CARRIERS (PMS 378) AS PM	FEB 2001
CAPT(S)	BUCZYNSKI, PETER S.	DTRA ARLINGTON VA	JAN 2001
CDR	BROVARONE, THOMAS J.	PEARL HARBOR NSYD & IMF	MAR 2001
CDR	EVERT, RICHARD W., II	SPAWARSYSCOM PMO SDIEGO	JAN 2001
CDR	GOOD, MICHAEL R.	PEO TSC (PMS 400B)	JAN 2001
CDR	GREEN, JAMES G.	SUPSHIP SAN DIEGO CA	JAN 2001
CDR	HUSS, JAMES R.	OPNAV (N76)	JAN 2001
CDR	MCGINNIS, ROGER D.	NAVSEA (SEA 53)	JAN 2001
CDR(S)	SEIGENTHALER, DANIEL M.	USS RONALD REAGAN (CVN 76)	MAR 2001
CDR	STANTON, MICHAEL B.	NAVSEA (PMS 317)	MAR 2001
CDR	STUBITS, NEIL C.	COMSUBLANT NORFOLK VA	MAR 2001
CDR	THOMAS, MARK W.	NAVSEA (SEA 05H)	MAR 2001
CDR	TURNER, JEFFREY L.	USS JOHN F. KENNEDY (CV 67)	FEB 2001
CDR(S)	WATKINS, BRUCE E.	BUPERS SEA DUTY ARLINGTON	MAR 2001
LCDR	CARDANY, JOHN P.	CINCLANTFLT NORFOLK VA	FEB 2001
LCDR	CLARK, CYNTHIA C.	SUPSHIP NEWPORT NEWS VA	FEB 2001
LCDR	COPPEANS, WALTER A. II	USS KEARSARGE (LHD 3)	JAN 2001
LCDR(S)	DAVIS, SCOTT A.	SUPSHIP PORTSMOUTH VA	FEB 2001
LCDR	FRACK, KENNETH L.	FTSCPAC SAN DIEGO CA	MAR 2001
LCDR	FUNN, JOHN V.	COMNAVSURFLANT NORFOLK VA	FEB 2001
LCDR	GAFFE, JOHN C.	PEO (W) (PMA 282)	FEB 2001
LCDR	GHATE, DILIP B.	SPAWARSYSCOM PMO SDIEGO	MAR 2001
LCDR	GRAHAM, WILLIAM R.	COMNAVSURFLANT NORFOLK VA	FEB 2001
LCDR	HARDER, DONALD R.	USS BONHOMME RICHARD LHD 6	FEB 2001
LCDR(S)	KALOWSKY, JAMES K.	NORFOLK NAVSHIPYD	MAR 2001
LCDR	MALDONADO, FERNANDO	SUPSHIP JACKSONVILLE FL	JAN 2001
LCDR	MURPHY, BRIAN P.	NORFOLK NAVSHIPYD	FEB 2001
LCDR	REINHARDT, DENNIS W.	STU NDIVESALTRACEN	FEB 2001
LCDR	RECHEL, ALAN A.	PORTSMOUTH NAVSHIPYD	FEB 2001
LCDR	SAN JOSE, ANTONIO P.	USS BLUE RIDGE (LCC 19)	FEB 2001
LCDR	SHARP, KELLOG C.	PEARL HARBOR NSYD & IMF	FEB 2001
LCDR	SITYAR, IRMA	DISA D6 JIEO ARLINGTON VA	FEB 2001
LCDR	SMITH, TRAVIS R.	SPAWARSYSCEN SAN DIEGO CA	MAR 2001
LCDR	SPRAGUE, JOHN W.	STU NAVPGSCOL MONTEREY CA	MAR 2001
LCDR	STARSMAN, RAYMOND S.	FTSCLANT NORFOLK VA	JAN 2001

CHANGE OF DUTY

RANK	NAME	TO	REPORT DATE
LCDR	YOUNG, FORREST	USS JOHN C. STENNIS (CVN 74)	JAN 2001
LCDR	ZINNI, JEROME	USS KITTY HAWK (CV 63)	FEB 2001
LT	ANDRUSIAK, TRACIE L.	SPAWARSYSCEN SAN DIEGO CA	MAR 2001
LT	BOYDON, JUANITO F., JR.	STU NAVDIVESALVTRACEN	FEB 2001
LT(S)	CROCKER, ELROY S.	STU NAVPGSCOL MONTEREY	MAR 2001
LT	HART, DAVID T.	STU NAVPGSCOL MONTEREY	JAN 2001
LT	JACK, TODD D.	SPAWARSYSCEN DET NORVA	JAN 2001
LT	LAWLER, GEORGE M.	STU NAVPGSCOL MONTEREY	JAN 2001
LT	MATTHEWS, MARK M.	PORTSMOUTH NAVSHIPYD	FEB 2001
LT	MEADE, STEPHEN R.	SUPSHIP SDIEGO DET PEARL	MAR 2001
LT	METCALF, BRIAN A.	SUPSHIP NEWPORT NEWS VA	MAR 2001
LT	MONTI, DAVID A.	NORFOLK NAVSHIPYD	MAR 2001
LT	NULL, GARY L.	PINSUR S/D DET NORFOLK VA	JAN 2001
LT	SCHNEIDER, NATHAN A.	STU NAVPGSCOL MONTEREY	FEB 2001
LTJG	MUTCH, ANDREW III	SUPSHIP PORTSMOUTH VA	FEB 2001
LTJG	SMITH, MICHAEL W.	STU NAVPGSOCL MONTEREY	JAN 2001

EDQP COMPLETIONS

- LCDR Dunlap, Gary H.	SUPSHIP Groton
- LCDR Pas, Michael E.	SPAWARSYSCOM San Diego
- LCDR Muggleworth, Charles E.	PEO SUBS (PMS 401C)
- LCDR Temme, Michael W.	Pearl Harbor NAVSHIPYD & IMF
- LCDR Young, John M.	SUPSHIP San Diego
- LT Bullock, Alexander, III	NAVSHIPREPFAC Yokosuka
- LT Durant, Brian R.	NAVSHIPREPFAC Yokosuka
- LT Hillaire, Pierre	Norfolk NAVSHIPYD
- LT Terhune, Shannon D.	Norfolk NAVSHIPYD

CORRECTION

In the initial release of the January 2001 issue of the *ED Newsletter*, LCDR T. Scott Mattingly (SEA 00C) was inadvertently omitted as author of the article *She's Hard Aground*, page 15. We regret the error.

RELOCATION

The ED Plans and Policies Office (SEA 00P) has relocated to the Washington Navy Yard, Building 197, Room 4E4600. The new phone number is: Commercial (202) 781-1726, DSN 326-1726.

Fair winds and following seas. . . . .

CAPTAIN

HOFFMAN, JAMES H.	SPAWARCEN CHARLESTON	01 JAN 2001

COMMANDERS

MULLER, KURT A.	COMSUBPAC	01 JAN 2001
DURAKO, PATRICIA A.	DIRDIVOFNAVREACDOE	01 FEB 2001
MCCARTHY, WILLIAM F.	OPNAV (N76)	01 FEB 2001
POOLE, WILLIAM M.	COMNAVSURFPAC	01 FEB 2001
SEATON, ROBERT L.	PRESINSURV SEA DUTY DET	01 FEB 2001
ZIEGLER, MICHAEL F.	SPAWARSYSCOM	01 FEB 2001

LIEUTENANT COMMANDERS

LASZAKOVITS, JOHN S.	SUPSHIP GROTON	01 JAN 2001
MAURER, GERALD J.	PUGET SOUND NAVSHIPYD	01 MAR 2001
RAMOS, LUIS	SUPSHIP PORTSMOUTH	08 FEB 2001
SOUZA, RANDY	OPNAV (N60R)	01 JAN 2001
WHITCOMB, CLIFFORD A.	NROTCU MIT	01 FEB 2001

LIEUTENANT

CHRZANOWSKI, PATRICK J.	SIMA SAN DIEGO	31 JAN 2001

I N M E M O R I A M

RADM Nathan Sonenhein, USN (Retired)

It is with great sadness that we learned of the death of RADM Nathan Sonenshein, USN, (Retired). He passed away on Friday, 13 April 2001. He resided in Moraga, CA. RADM Sonenhein served as Commander, Naval Ship Systems Command from 1969 to 1972. He retired 1 July 1974. His beloved wife of 60 years, Ila, preceded him in death by two months.

ED NEWSLETTER

NAVSEA NAVAL SEA SYSTEMS COMMAND

Commander, NAVSEA . . . . . .VADM George P. Nanos, Jr.
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